

Notes on the Food of *Conus dalli* STEARNS, 1873

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*Conus dalli* STEARNS, 1873 HAS LONG BEEN considered to be the West American representative of the *C. textile* group and indeed its color pattern is such that it is difficult to distinguish from its Indo-Pacific congener (HANNA, 1963).

KOHN (1959) has reported that *Conus textile* LINNAEUS, 1758 is a mollusk eater, and it is therefore of interest to know whether or not *C. dalli* shares this dietary preference. To my knowledge the food of this species has not been reported in the literature, a gap which may be due in part to the fact that it is not commonly collected alive. This note reports on observations of *C. dalli* feeding on mollusks.

On November 13, 1967, while I was participating in Stanford University's *Te Vega* Expedition 16', four living specimens of *Conus dalli* were collected at Cape San Lucas, Baja California, Mexico, by members of the expedition. These four specimens were all collected in a small area of loose rock on a sand substrate. The depth varied from 5 to 8 feet. All four specimens were found buried in sand under rocks. Specimens of *C. diadema* SOWERBY, 1834, *C. tiaratus* BRODERIP, 1833, and *C. nux* BRODERIP, 1833, were collected at the same time.

I kept the four specimens of *Conus dalli* alive in a small aquarium on the ship. Three days after they were collected I attempted to feed them by introducing a specimen of the gastropod genus *Acanthina* (probably *A. tyrianthina* BERRY, 1957) into the aquarium. After about half an hour, during which time the potential prey made several passes around the aquarium very near to, and sometimes over, the *C. dalli* specimens, the largest cone began to show interest and extruded its proboscis. The proboscis was moved around to the posterior part of the prey, and the animal was stung on the postero-lateral portion of the foot. The *Acanthina* immediately retracted into its shell. The *C. dalli* again probed the aperture area with its proboscis, but I could not determine whether the prey was stung again. The *C. dalli* then rolled the *Acanthina* over with the front of its foot so that the aperture faced upward toward the cone. The front part of the foot remained in place over the

siphonal notch, and again the proboscis made several additional probings of the aperture.

Following the probings, the buccal area expanded over the aperture of the *Acanthina*, obscuring any further observation. This condition prevailed for 27 minutes. At the end of this period the cone withdrew its buccal area but remained in position over the shell of the *Acanthina* for another 4 minutes before moving off.

A check of the shell of the *Acanthina* immediately after the cone had moved off revealed that it was completely empty, the whole animal having been consumed by the cone.

I subsequently brought all four specimens of *Conus dalli* back to my aquaria at Moss Landing, where they were placed together with several other West American *Conus* species.

A few days after introducing the *Conus dalli* into the aquarium I noticed a large number of empty shells of *C. nux*. This sudden increase in mortality of a cone that had theretofore lived well in aquaria led me to suspect that *C. dalli* was preying on *C. nux*. This suspicion was confirmed when I placed one specimen of each of the two cone species in an isolation aquarium. The initial attack was not observed, but the position of the *C. dalli* while feeding on the *C. nux* was similar to that observed for *Acanthina*.

The *Conus dalli* showed a marked preference for *C. nux* over other *Conus* species. *Conus dalli* did not, for example, attack *C. diadema* or *C. tiaratus* of a size similar to that of *C. nux* even though they were left together in aquaria for several weeks. Whether *C. nux* is the normal food of *C. dalli* in the natural environment is not known, but both species were collected together so it would not seem unreasonable to suspect this.

## LITERATURE CITED

- HANNA, G DALLAS  
1963. West American mollusks of the genus *Conus*; II. Calif. Acad. Sci. Occ. Papers 35:1-103; pls 1-11 (28 Jan. 1963)
- KOHN, ALAN J.  
1959. The ecology of *Conus* in Hawaii. Ecol. Monogr. 29: 47-90.

<sup>1</sup> Operated under NSF Grants GB 6870 and GB 6871